Ptilosarcus gurneyi.ST25.txt

SEQUENCE LISTING

<110>   Chen, Yih-Tai
        Cao, Longguang

<120>   A synthetic DNA encoding an orange seapen-derived green fluorescent protein
        with codon preference of mammalian expression systems and biosensors

<130>   41856-5

<160>   27

<170>   PatentIn version 3.1

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cctctgccct tcgccttcga catcgtgagc atcgccttcc agtacggcaa ccggaccttc   240

accagtatc ccgacgacat cgccgactac ttcgtgcaga gcttccctgc cggcttcttc   300

tacgagcgga acctgcggtt cgaggacggc gccatccgtag acatccggag cgacatcagc   360

ctggaggacg acaagttcca ctacaaggtg gagtaccgcg gcaacggctt ccctagcaac   420

ggccctgtga tgcagaaggc catcctgggc atggagccca gcttcgaggt ggtgtacatg   480

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Ptilosarcus gurneyi.ST25.txt

aacagcggcg tgctggtggg cgaggtggac ctggtgtaca agctggagag cggcaactac 540

tacagctgcc acatgaagac cttctaccgg agcaagggcg gcgtgaagga gttccctgag 600

tacctattca tccaccaccg gctggagaag aactacgtgg aggagggcag cttcgtggag 660

cagcacgaga ccgccatcgc ccagctgacc accatcggca agcctctggg cagcctgcac 720

gagtgggtgt aaagcggccg caagcttgcc accatggtga accggaacgt gctgaagaac 780

accggcctga aggagatcat gagcgccaag gccagcgtgg agggcatcgt gaacaaccac 840

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atccgggtga ccaagggcgg ccctctgccc ttcgccttcg acatcgtgag catcgccttc 960

cagtacggca accggacctt caccaagtat cccgacgaca tcgccgacta cttcgtgcag 1020

agcttccctg ccggcttctt ctacgagcgg aacctgcggt tcgaggacgg cgccatcgtg 1080

gacatccgga gcgacatcag cctggaggac gacaagttcc actacaaggt ggagtaccgc 1140

ggcaacggct tccctagcaa cggccctgtg atgcagaagg ccatcctggg catggagccc 1200

agcttcgagg tggtgtacat gaacagcggc gtgctggtgg gcgaggtgga cctggtgtac 1260

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gaggaggggca gcttcgtgga gcagcacgag accgccatcg cccagctgac caccatcggc 1440

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Ptilosarcus gurneyi.ST25.txt

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1   5   10   15

Ser Ala Lys Ala Ser Val Glu Gly Ile Val Asn Asn His Val Phe Ser
                20   25   30

Met Glu Gly Phe Gly Lys Gly Asn Val Leu Phe Gly Asn Gln Leu Met
            35   40   45

Gln Ile Arg Val Thr Lys Gly Gly Pro Leu Pro Phe Ala Phe Asp Ile
        50   55   60

Val Ser Ile Ala Phe Gln Tyr Gly Asn Arg Thr Phe Thr Lys Tyr Pro
65   70   75   80

Asp Asp Ile Ala Asp Tyr Phe Val Gln Ser Phe Pro Ala Gly Phe Phe
                85   90   95

Tyr Glu Arg Asn Leu Arg Phe Glu Asp Gly Ala Ile Val Asp Ile Arg
                100   105   110

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ᴛᴀʙʟᴇ ᴄ.Xᴀᴅᴀᴅ

Ser Asp Ile Ser Leu Glu Asp Lys Phe His Tyr Lys Val Glu Tyr
115   120   125

Arg Gly Asn Gly Phe Pro Ser Asn Gly Pro Val Met Gln Lys Ala Ile
130   135   140

Leu Gly Met Glu Pro Ser Phe Glu Val Val Tyr Met Asn Ser Gly Val
145   150   155   160

Leu Val Gly Glu Val Asp Leu Val Tyr Lys Leu Glu Ser Gly Asn Tyr
165   170   175

Tyr Ser Cys His Met Lys Thr Phe Tyr Arg Ser Lys Gly Gly Val Lys
180   185   190

Glu Phe Pro Glu Tyr His Phe Ile His His Arg Leu Glu Lys Thr Tyr
195   200   205

Val Glu Glu Gly Ser Phe Val Glu Gln His Glu Thr Ala Ile Ala Gln
210   215   220

Leu Thr Thr Ile Gly Lys Pro Leu Gly Ser Leu His Glu Trp Val
225   230   235

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Ptilosarcus gurneyi.ST25.txt

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Met Val Asn Arg Asn Val Leu Lys Asn Thr Gly Leu Lys Glu Ile Met
1   5   10   15

Ser Ala Lys Ala Ser Val Glu Gly Ile Val Asn Asn His Val Phe Ser
            20   25   30

Met Glu Gly Phe Gly Lys Gly Lys Gly Asn Val Leu Phe Gly Asn Gln Leu Met
        35   40   45

Gln Ile Arg Val Thr Lys Gly Gly Pro Leu Pro Phe Ala Phe Asp Ile
    50   55   60

Val Ser Ile Ala Phe Gln Tyr Gly Asn Arg Thr Phe Thr Lys Tyr Pro
65   70   75   80

Asp Asp Ile Ala Asp Tyr Phe Val Gln Ser Phe Pro Ala Gly Phe Phe
                85   90   95

Tyr Glu Arg Asn Leu Arg Phe Glu Asp Gly Ala Ile Val Asp Ile Arg
            100   105   110

Ser Asp Ile Ser Leu Glu Asp Asp Lys Phe His Tyr Lys Val Glu Tyr
        115   120   125

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Arg Gly Asn Gly Phe Pro Ser Asn Gly Pro Val Met Gln Lys Ala Ile
130   135   140

Leu Gly Met Glu Pro Ser Phe Glu Val Val Tyr Met Asn Ser Gly Val
145   150   155   160

Leu Val Gly Glu Val Asp Leu Val Tyr Lys Leu Glu Ser Gly Asn Tyr
165   170   175

Tyr Ser Cys His Met Lys Thr Phe Tyr Arg Ser Lys Gly Gly Val Lys
180   185   190

Glu Phe Pro Glu Tyr His Phe Ile His His Arg Leu Glu Lys Thr Tyr
195   200   205

Val Glu Glu Gly Ser Phe Val Glu Gln His Glu Thr Ala Ile Ala Gln
210   215   220

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Gly Leu Lys Glu Ile Met Ser Ala Lys Ala Ser Val Glu Gly Ile Val
1   5   10   15

Ptilosarcus gurneyi.ST25.txt

Asn Asn His Val Phe Ser Met Glu Gly Phe Gly Lys Gly Asn Val Leu
                    20   25   30

Phe Gly Asn Gln Leu Met Gln Ile Arg Val Thr Lys Gly Gly Pro Leu
                    35   40   45

Pro Phe Ala Phe Asp Ile Val Ser Ile Ala Phe Gln Tyr Gly Asn Arg
                    50   55   60

Thr Phe Thr Lys Tyr Pro Asp Asp Ile Ala Asp Tyr Phe Val Gln Ser
                    65   70   75   80

Phe Pro Ala Gly Phe Phe Tyr Glu Arg Asn Leu Arg Phe Glu Asp Gly
                    85   90   95

Ala Ile Val Asp Ile Arg Ser Asp Ile Ser Leu Glu Asp Asp Lys Phe
                    100   105   110

His Tyr Lys Val Glu Tyr Arg Gly Asn Gly Phe Pro Ser Asn Gly Pro
                    115   120   125

Val Met Gln Lys Ala Ile Leu Gly Met Glu Pro Ser Phe Glu Val Val
                    130   135   140

Tyr Met Asn Ser Gly Val Leu Val Gly Glu Val Asp Leu Val Tyr Lys

Ptilosarcus gurneyi.ST25.txt

```
145                 150                 155                 160

Leu Glu Ser Gly Asn Tyr Tyr Ser Cys His Met Lys Thr Phe Tyr Arg
                165                 170                 175

Ser Lys Gly Gly Val Lys Glu Phe Pro Glu Tyr His Phe Ile His His
                180                 185                 190

Arg Leu Glu Lys Thr Tyr Val Glu Glu Gly Ser Phe Val Glu Gln His
                195                 200                 205

Glu Thr Ala Ile Ala Gln Leu Thr Thr Ile Gly
                210                 215


<210>   5
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<213>   Ptilosarcus gurneyi

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Met Val Arg Asn Val Leu Lys Asn Thr Gly Leu Lys Glu Ile Met Ser
1                   5                   10                  15

Ala Lys Ala Ser Val Glu Gly Ile Val Asn Asn His Val Phe Ser Met
                20                  25                  30

Glu Gly Phe Gly Lys Gly Asn Val Leu Phe Gly Asn Gln Leu Met Gln
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Ptilosarcus gurneyi.ST25.txt

                                                  45

35

Ile Arg Val Thr Lys Gly Gly Pro Leu Pro Phe Ala Phe Asp Ile Val
            50   55   60

Ser Ile Ala Phe Gln Tyr Gly Asn Arg Thr Lys Tyr Pro Asp
65   70   75   80

Asp Ile Ala Asp Tyr Phe Val Gln Ser Phe Pro Ala Gly Phe Phe Tyr
            85   90   95

Glu Arg Asn Leu Arg Phe Glu Asp Gly Ala Ile Val Asp Ile Arg Ser
            100   105   110

Asp Ile Ser Leu Glu Asp Asp Lys Phe His Tyr Lys Val Glu Tyr Arg
            115   120   125

Gly Asn Gly Phe Pro Ser Asn Gly Pro Val Met Gln Lys Ala Ile Leu
130   135   140

Gly Met Glu Pro Ser Phe Glu Val Val Tyr Met Asn Ser Gly Val Leu
145   150   155   160

Val Gly Glu Val Asp Leu Val Tyr Lys Leu Glu Ser Gly Asn Tyr Tyr
            165   170   175

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Ser Cys His Met Lys Thr Phe Tyr Arg Ser Lys Gly Gly Val Lys Glu
180   185   190

Phe Pro Glu Tyr His Phe Ile His His Arg Leu Glu Lys Thr Tyr Val
195   200   205

Glu Glu Gly Ser Phe Val Glu Gln His Glu Thr Ala Ile Ala Gln Leu
210   215   220

Thr Thr Ile Gly Lys Pro Leu Gly Ser Leu His Glu Trp Val
225   230   235

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Met Val Asn Val Leu Lys Asn Thr Gly Leu Lys Glu Ile Met Ser Ala
1   5   10   15

Lys Ala Ser Val Glu Gly Ile Val Asn Asn His Val Phe Ser Met Glu
            20   25   30

Gly Phe Gly Lys Gly Asn Val Leu Phe Gly Asn Gln Leu Met Gln Ile
        35   40   45

Ptilosarcus gurneyi.ST25.txt

Arg Val Thr Lys Gly Gly Pro Leu Pro Phe Ala Phe Asp Ile Val Ser
50   55   60

Ile Ala Phe Gln Tyr Gly Asn Arg Thr Phe Thr Lys Tyr Pro Asp Asp
65   70   75   80

Ile Ala Asp Tyr Phe Val Gln Ser Phe Pro Ala Gly Phe Phe Tyr Glu
85   90   95

Arg Asn Leu Arg Phe Glu Asp Gly Ala Ile Val Asp Ile Arg Ser Asp
100   105   110

Ile Ser Leu Glu Asp Asp Lys Phe His Tyr Lys Val Glu Tyr Arg Gly
115   120   125

Asn Gly Phe Pro Ser Asn Gly Pro Val Met Gln Lys Ala Ile Leu Gly
130   135   140

Met Glu Pro Ser Phe Glu Val Val Tyr Met Asn Ser Gly Val Leu Val
145   150   155   160

Gly Glu Val Asp Leu Val Tyr Lys Leu Glu Ser Gly Asn Tyr Tyr Ser
165   170   175

Cys His Met Lys Thr Phe Tyr Arg Ser Lys Gly Gly Val Lys Glu Phe
180   185   190

Ptilosarcus gurneyi.ST25.txt

Pro Glu Tyr His Phe Ile His His Arg Leu Glu Lys Tyr Val Glu
195   200   205

Glu Gly Ser Phe Val Glu Gln His Glu Thr Ala Ile Ala Gln Leu Thr
210   215   220

Thr Ile Gly Lys Pro Leu Gly Ser Leu His Glu Trp Val
225   230   235

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<212>   PRT
<213>   Ptilosarcus gurneyi

<400>   7

Met Val Val Leu Lys Asn Thr Gly Leu Leu Lys Glu Ile Met Ser Ala Lys
1   5   10   15

Ala Ser Val Glu Gly Ile Val Asn Asn His Val Phe Ser Met Glu Gly
                    20   25   30

Phe Gly Lys Gly Asn Val Leu Phe Gly Asn Gln Leu Met Gln Ile Arg
                    35   40   45

Val Thr Lys Gly Gly Pro Leu Pro Phe Ala Phe Asp Ile Val Ser Ile
                    50   55   60

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Ala Phe Gln Tyr Gly Asn Arg Thr Phe Thr Lys Tyr Pro Asp Asp Ile
65   70   75   80

Ala Asp Tyr Phe Val Gln Ser Phe Pro Ala Gly Phe Phe Tyr Glu Arg
                85   90   95

Asn Leu Arg Phe Glu Asp Gly Ala Ile Val Asp Ile Arg Ser Asp Ile
            100   105   110

Ser Leu Glu Asp Asp Lys Phe His Tyr Lys Val Glu Tyr Arg Gly Asn
        115   120   125

Gly Phe Pro Ser Asn Gly Pro Val Met Gln Lys Ala Ile Leu Gly Met
    130   135   140

Glu Pro Ser Phe Glu Val Val Tyr Met Asn Ser Gly Val Leu Val Gly
145   150   155   160

Glu Val Asp Leu Val Tyr Lys Leu Glu Ser Gly Asn Tyr Tyr Ser Cys
                165   170   175

His Met Lys Thr Phe Tyr Arg Ser Lys Gly Gly Val Lys Glu Phe Pro
                180   185   190

Glu Tyr His Phe Ile His His Arg Leu Glu Lys Thr Tyr Val Glu Glu
            195   200   205

Ptilosarcus gurneyi.ST25.txt

Gly Ser Phe Val Glu Gln His Glu Thr Ala Ile Ala Gln Leu Thr Thr
210   215   220

Ile Gly Lys Pro Leu Gly Ser Leu His Glu Trp Val
225   230   235

<210>   8
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<212>   PRT
<213>   Ptilosarcus gurneyi

<400>   8

Met Val Leu Lys Asn Thr Gly Leu Lys Glu Ile Met Ser Ala Lys Ala
1   5   10   15

Ser Val Glu Gly Ile Val Asn Asn His Val Phe Ser Met Glu Gly Phe
                        20   25   30

Gly Lys Gly Asn Val Leu Phe Gly Asn Gln Leu Met Gln Ile Arg Val
                35   40   45

Thr Lys Gly Gly Pro Leu Pro Phe Ala Phe Asp Ile Val Ser Ile Ala
        50   55   60

Phe Gln Tyr Gly Asn Arg Thr Phe Thr Lys Tyr Pro Asp Asp Ile Ala
65   70   75   80

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Ptilosarcus gurneyi.ST25.txt

Asp Tyr Phe Val Gln Ser Phe Pro Ala Gly Phe Phe Tyr Glu Arg Asn
85   90   95

Leu Arg Phe Glu Asp Gly Ala Ile Val Asp Ile Arg Ser Asp Ile Ser
100   105   110

Leu Glu Asp Asp Lys Phe His Tyr Lys Val Glu Tyr Arg Gly Asn Gly
115   120   125

Phe Pro Ser Asn Gly Pro Val Met Gln Lys Ala Ile Leu Gly Met Glu
130   135   140

Pro Ser Phe Glu Val Val Tyr Met Asn Ser Gly Val Leu Val Gly Glu
145   150   155   160

Val Asp Leu Val Tyr Lys Leu Glu Ser Gly Asn Tyr Tyr Ser Cys His
165   170   175

Met Lys Thr Phe Tyr Arg Ser Lys Gly Gly Val Lys Glu Phe Pro Glu
180   185   190

Tyr His Phe Ile His His Arg Leu Glu Lys Thr Tyr Val Glu Glu Gly
195   200   205

Ser Phe Val Glu Gln His Glu Thr Ala Ile Ala Gln Leu Thr Thr Ile

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Ptilosarcus gurneyi.ST25.txt

215   220

210

Gly Lys Pro Leu Gly Ser Leu His Glu Trp Val
225   230   235

<210> 9
<211> 234
<212> PRT
<213> Ptilosarcus gurneyi

<400> 9

Met Val Lys Asn Thr Gly Leu Lys Glu Ile Met Ser Ala Lys Ala Ser
1   5   10   15

Val Glu Gly Ile Val Asn Asn His Val Phe Ser Met Glu Gly Phe Gly
                20   25   30

Lys Gly Asn Val Leu Phe Gly Asn Gln Leu Met Gln Ile Arg Val Thr
            35   40   45

Lys Gly Gly Pro Leu Pro Phe Ala Phe Asp Ile Val Ser Ile Ala Phe
        50   55   60

Gln Tyr Gly Asn Arg Thr Phe Thr Lys Tyr Pro Asp Asp Ile Ala Asp
65   70   75   80

Tyr Phe Val Gln Ser Phe Pro Ala Gly Phe Phe Tyr Glu Arg Asn Leu

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Ptilosarcus gurneyi.ST25.txt

85   90   95

Arg Phe Glu Asp Gly Ala Ile Val Asp Ile Arg Ser Asp Ile Ser Leu
100   105   110

Glu Asp Asp Lys Phe His Tyr Lys Val Glu Tyr Arg Gly Asn Gly Phe
115   120   125

Pro Ser Asn Gly Pro Val Met Gln Lys Ala Ile Leu Gly Met Glu Pro
130   135   140

Ser Phe Glu Val Val Tyr Met Asn Ser Gly Val Leu Val Gly Glu Val
145   150   155   160

Asp Leu Val Tyr Lys Leu Glu Ser Gly Asn Tyr Tyr Ser Cys His Met
165   170   175

Lys Thr Phe Tyr Arg Ser Lys Gly Gly Val Lys Glu Phe Pro Glu Tyr
180   185   190

His Phe Ile His His Arg Leu Glu Lys Thr Tyr Val Glu Glu Gly Ser
195   200   205

Phe Val Glu Gln His Glu Thr Ala Ile Ala Gln Leu Thr Thr Ile Gly
210   215   220

Ptilosarcus gurneyi.ST25.txt

Lys Pro Leu Gly Ser Leu His Glu Trp Val [illegible]
225   230

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<213> Ptilosarcus gurneyi

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Met Val Asn Thr Gly Leu Lys Glu Ile Met Ser Ala Lys Ala Ser Val
1   5   10   15

Glu Gly Ile Val Asn Asn His Val Phe Ser Met Glu Gly Phe Gly Lys
            20   25   30

Gly Asn Val Leu Phe Gly Asn Gln Leu Met Gln Ile Arg Val Thr Lys
        35   40   45

Gly Gly Pro Leu Pro Phe Ala Phe Asp Ile Val Ser Ile Ala Phe Gln
    50   55   60

Tyr Gly Asn Arg Thr Phe Thr Lys Tyr Pro Asp Asp Ile Ala Asp Tyr
65   70   75   80

Phe Val Gln Ser Phe Pro Ala Gly Phe Phe Tyr Glu Arg Asn Leu Arg
                85   90   95

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Phe Glu Asp Gly Ala Ile Val Asp Ile Arg Ser Asp Ile Ser Leu Glu
100   105   110

Asp Asp Lys Phe His Tyr Lys Val Glu Tyr Arg Gly Asn Gly Phe Pro
115   120   125

Ser Asn Gly Pro Val Met Gln Lys Ala Ile Leu Gly Met Glu Pro Ser
130   135   140

Phe Glu Val Val Tyr Met Asn Ser Gly Val Leu Val Gly Glu Val Asp
145   150   155   160

Leu Val Tyr Lys Leu Glu Ser Gly Asn Tyr Tyr Ser Cys His Met Lys
165   170   175

Thr Phe Tyr Arg Ser Lys Gly Gly Val Lys Glu Phe Pro Glu Tyr His
180   185   190

Phe Ile His His Arg Leu Glu Lys Thr Tyr Val Glu Glu Gly Ser Phe
195   200   205

Val Glu Gln His Glu Thr Ala Ile Ala Gln Leu Thr Thr Ile Gly Lys
210   215   220

Pro Leu Gly Ser Leu His Glu Trp Val
225   230

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1   5   10   15

Gly Ile Val Asn Asn His Val Phe Ser Met Glu Gly Phe Gly Lys Gly
                20   25   30

Asn Val Leu Phe Gly Asn Gln Leu Met Gln Ile Arg Val Thr Lys Gly
            35   40   45

Gly Pro Leu Pro Phe Ala Phe Asp Ile Val Ser Ile Ala Phe Gln Tyr
        50   55   60

Gly Asn Arg Thr Phe Thr Lys Tyr Pro Asp Asp Ile Ala Asp Tyr Phe
65   70   75   80

Val Gln Ser Phe Pro Ala Gly Phe Phe Tyr Glu Arg Asn Leu Arg Phe
                85   90   95

Glu Asp Gly Ala Ile Val Asp Ile Arg Ser Asp Ile Ser Leu Glu Asp
                100   105   110

Asp Lys Phe His Tyr Lys Val Glu Tyr Arg Gly Asn Gly Phe Pro Ser
115   120   125

Asn Gly Pro Val Met Gln Lys Ala Ile Leu Gly Met Glu Pro Ser Phe
130   135   140

Glu Val Val Tyr Met Asn Ser Gly Val Leu Val Gly Glu Val Asp Leu
145   150   155   160

Val Tyr Lys Leu Glu Ser Gly Asn Tyr Tyr Ser Cys His Met Lys Thr
165   170   175

Phe Tyr Arg Ser Lys Gly Gly Val Lys Glu Phe Pro Glu Tyr His Phe
180   185   190

Ile His His Arg Leu Glu Lys Thr Tyr Val Glu Glu Gly Ser Phe Val
195   200   205

Glu Gln His Glu Thr Ala Ile Ala Gln Leu Thr Thr Ile Gly Lys Pro
210   215   220

Leu Gly Ser Leu His Glu Trp Val
225   230

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Ptilosarcus gurneyi.ST25.txt

FIGURE 24B

<210> PRT
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<400> 12

Met Val Gly Leu Lys Glu Ile Met Ser Ala Lys Ala Ser Val Glu Gly
1   5   10   15

Ile Val Asn Asn His Val Phe Ser Met Glu Gly Phe Gly Lys Gly Asn
            20   25   30

Val Leu Phe Gly Asn Gln Leu Met Gln Ile Arg Val Thr Lys Gly Gly
        35   40   45

Pro Leu Pro Phe Ala Phe Asp Ile Val Ser Ile Ala Phe Gln Tyr Gly
    50   55   60

Asn Arg Thr Phe Thr Lys Tyr Pro Asp Asp Ile Ala Asp Tyr Phe Val
65   70   75   80

Gln Ser Phe Pro Ala Gly Phe Phe Tyr Glu Arg Asn Leu Arg Phe Glu
                85   90   95

Asp Gly Ala Ile Val Asp Ile Arg Ser Asp Ile Ser Leu Glu Asp Asp
            100   105   110

Lys Phe His Tyr Lys Val Glu Tyr Arg Gly Asn Gly Phe Pro Ser Asn
        115   120   125

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Gly Pro Val Met Gln Lys Ala Ile Leu Gly Met Glu Pro Ser Phe Glu
130   135   140

Val Val Tyr Met Asn Ser Gly Val Leu Val Gly Glu Val Asp Leu Val
145   150   155   160

Tyr Lys Leu Glu Ser Gly Asn Tyr Tyr Ser Cys His Met Lys Thr Phe
165   170   175

Tyr Arg Ser Lys Gly Gly Val Lys Glu Phe Pro Glu Tyr His Phe Ile
180   185   190

His His Arg Leu Glu Lys Thr Tyr Val Glu Glu Gly Ser Phe Val Glu
195   200   205

Gln His Glu Thr Ala Ile Ala Gln Leu Thr Thr Ile Gly Lys Pro Leu
210   215   220

Gly Ser Leu His Glu Trp Val
225   230

<210> 13
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<212> PRT
<213> Ptilosarcus gurneyi

Ptilosarcus gurneyi.ST25.txt

<400> 13

Met Val Asn Arg Asn Val Leu Lys Asn Thr Gly Leu Lys Glu Ile Met
1   5   10   15

Ser Ala Lys Ala Ser Val Glu Gly Ile Val Asn Asn His Val Phe Ser
            20   25   30

Met Glu Gly Phe Gly Lys Gly Asn Val Leu Phe Gly Asn Gln Leu Met
        35   40   45

Gln Ile Arg Val Thr Lys Gly Gly Pro Leu Pro Phe Ala Phe Asp Ile
    50   55   60

Val Ser Ile Ala Phe Gln Tyr Gly Asn Arg Thr Phe Thr Lys Tyr Pro
65   70   75   80

Asp Asp Ile Ala Asp Tyr Phe Val Gln Ser Phe Pro Ala Gly Phe Phe
            85   90   95

Tyr Glu Arg Asn Leu Arg Phe Glu Asp Gly Ala Ile Val Asp Ile Arg
            100   105   110

Ser Asp Ile Ser Leu Glu Asp Asp Lys Phe His Tyr Lys Val Glu Tyr
        115   120   125

Arg Gly Asn Gly Phe Pro Ser Asn Gly Pro Val Met Gln Lys Ala Ile

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Ptilosarcus gurneyi.ST25.txt

135 Leu Gly Ala Arg Asn Lys
        140

130

Leu Gly Met Glu Pro Ser Phe Glu Val Val Tyr Met Asn Ser Gly Val
145   150   155   160

Leu Val Gly Glu Val Asp Leu Val Tyr Lys Leu Glu Ser Gly Asn Tyr
                165   170   175

Tyr Ser Cys His Met Lys Thr Phe Tyr Arg Ser Lys Gly Gly Val Lys
                180   185   190

Glu Phe Pro Glu Tyr His Phe Ile His His Arg Leu Glu Lys Thr Tyr
                195   200   205

Val Glu Glu Gly Ser Phe Val Glu Gln His Glu Thr Ala Ile Ala Gln
210   215   220

<210>   14
<211>   225
<212>   PRT
<213>   Ptilosarcus gurneyi

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Met Val Asn Arg Asn Val Leu Lys Asn Thr Gly Leu Lys Glu Ile Met
1   5   10   15

Ser Ala Lys Ala Ser Val Glu Gly Ile Val Asn Asn His Val Phe Ser

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```
                           25                30
                     20
Met Glu Gly Phe Gly Lys Gly Asn Val Leu Phe Gly Asn Gln Leu Met
                35                40                45
Gln Ile Arg Val Thr Lys Gly Gly Pro Leu Pro Phe Ala Phe Asp Ile
                50                55                60
Val Ser Ile Ala Phe Gln Tyr Gly Asn Arg Thr Phe Thr Lys Tyr Pro
                65                70                75                80
Asp Asp Ile Ala Asp Tyr Phe Val Gln Ser Phe Pro Ala Gly Phe Phe
                85                90                95
Tyr Glu Arg Asn Leu Arg Phe Glu Asp Gly Ala Ile Val Asp Ile Arg
                100               105               110
Ser Asp Ile Ser Leu Glu Asp Asp Lys Phe His Tyr Lys Val Glu Tyr
                115               120               125
Arg Gly Asn Gly Phe Pro Ser Asn Gly Pro Val Met Gln Lys Ala Ile
                130               135               140
Leu Gly Met Glu Pro Ser Phe Glu Val Val Tyr Met Asn Ser Gly Val
                145               150               155               160
```

Leu Val Gly Glu Val Asp Leu Val Tyr Lys Leu Glu Ser Gly Asn Tyr
165   170   175

Tyr Ser Cys His Met Lys Thr Phe Tyr Arg Ser Lys Gly Gly Val Lys
180   185   190

Glu Phe Pro Glu Tyr His Phe Ile His His Arg Leu Glu Lys Thr Tyr
195   200   205

Val Glu Glu Gly Ser Phe Val Glu Gln His Glu Thr Ala Ile Ala Gln
210   215   220

Leu
225

<210> 15
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<212> PRT
<213> Ptilosarcus gurneyi

<400> 15

Met Val Asn Arg Asn Val Leu Lys Asn Thr Gly Leu Lys Glu Ile Met
1   5   10   15

Ser Ala Lys Ala Ser Val Glu Gly Ile Val Asn Asn His Val Phe Ser
20   25   30

Ptilosarcus gurneyi.ST25.txt

Met Glu Gly Phe Gly Lys Gly Asn Val Leu Phe Gly Asn Gln Leu Met
35   40   45

Gln Ile Arg Val Thr Lys Gly Gly Pro Leu Pro Phe Ala Phe Asp Ile
50   55   60

Val Ser Ile Ala Phe Gln Tyr Gly Asn Arg Thr Phe Thr Lys Tyr Pro
65   70   75   80

Asp Asp Ile Ala Asp Tyr Phe Val Gln Ser Phe Pro Ala Gly Phe Phe
85   90   95

Tyr Glu Arg Asn Leu Arg Phe Glu Asp Gly Ala Ile Val Asp Ile Arg
100   105   110

Ser Asp Ile Ser Leu Glu Asp Asp Lys Phe His Tyr Lys Val Glu Tyr
115   120   125

Arg Gly Asn Gly Phe Pro Ser Asn Gly Pro Val Met Gln Lys Ala Ile
130   135   140

Leu Gly Met Glu Pro Ser Phe Glu Val Val Tyr Met Asn Ser Gly Val
145   150   155   160

Leu Val Gly Glu Val Asp Leu Val Tyr Lys Leu Glu Ser Gly Asn Tyr
165   170   175

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Ptilosarcus gurneyi.ST25.txt

Tyr Ser Cys His Met Lys Thr Phe Tyr Arg Ser Lys Gly Gly Val Lys
180   185   190

Glu Phe Pro Glu Tyr His Phe Ile His His Arg Leu Glu Lys Thr Tyr
195   200   205

Val Glu Glu Gly Ser Phe Val Glu Gln His Glu Thr Ala Ile Ala Gln
210   215   220

Leu Thr
225

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Met Val Asn Arg Asn Val Leu Lys Asn Thr Gly Leu Lys Glu Ile Met
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Ser Ala Lys Ala Ser Val Glu Gly Ile Val Asn Asn His Val Phe Ser
20   25   30

Met Glu Gly Phe Gly Lys Gly Asn Val Leu Phe Gly Asn Gln Leu Met
35   40   45

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Gln Ile Arg Val Thr Lys Gly Gly Pro Leu Pro Phe Ala Phe Asp Ile
50   55   60

Val Ser Ile Ala Phe Gln Tyr Gly Asn Arg Thr Phe Thr Lys Tyr Pro
65   70   75   80

Asp Asp Ile Ala Asp Tyr Phe Val Gln Ser Phe Pro Ala Gly Phe Phe
85   90   95

Tyr Glu Arg Asn Leu Arg Phe Glu Asp Gly Ala Ile Val Asp Ile Arg
100   105   110

Ser Asp Ile Ser Leu Glu Asp Asp Lys Phe His Tyr Lys Val Glu Tyr
115   120   125

Arg Gly Asn Gly Phe Pro Ser Asn Gly Pro Val Met Gln Lys Ala Ile
130   135   140

Leu Gly Met Glu Pro Ser Phe Glu Val Val Tyr Met Asn Ser Gly Val
145   150   155   160

Leu Val Gly Glu Val Asp Leu Val Tyr Lys Leu Glu Ser Gly Asn Tyr
165   170   175

Tyr Ser Cys His Met Lys Thr Phe Tyr Arg Ser Lys Gly Gly Val Lys
180   185   190

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Glu Phe Pro Glu Tyr His Phe Ile His His Arg Leu Glu Lys Thr Tyr
195   200   205

Val Glu Glu Gly Ser Phe Val Glu Gln His Glu Thr Ala Ile Ala Gln
210   215   220

Leu Thr Thr
225

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<400> 17

Met Val Asn Arg Asn Val Leu Lys Asn Thr Gly Leu Lys Glu Ile Met
1   5   10   15

Ser Ala Lys Ala Ser Val Glu Gly Ile Val Asn Asn His Val Phe Ser
                20   25   30

Met Glu Gly Phe Gly Lys Gly Lys Gly Asn Val Leu Phe Gly Asn Gln Leu Met
                35   40   45

Gln Ile Arg Val Thr Lys Gly Gly Pro Leu Pro Phe Ala Phe Asp Ile
        50   55   60

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Val Ser Ile Ala Phe Gln Tyr Gly Asn Arg Thr Phe Thr Lys Tyr Pro
65   70   75   80

Asp Asp Ile Ala Asp Tyr Phe Val Gln Ser Phe Pro Ala Gly Phe Phe
                     85   90   95

Tyr Glu Arg Asn Leu Arg Phe Glu Asp Gly Ala Ile Val Asp Ile Arg
              100   105   110

Ser Asp Ile Ser Leu Glu Asp Asp Lys Phe His Tyr Lys Val Glu Tyr
              115   120   125

Arg Gly Asn Gly Phe Pro Ser Asn Gly Pro Val Met Gln Lys Ala Ile
              130   135   140

Leu Gly Met Glu Pro Ser Phe Glu Val Val Tyr Met Asn Ser Gly Val
145   150   155   160

Leu Val Gly Glu Val Asp Leu Val Tyr Lys Leu Glu Ser Gly Asn Tyr
                     165   170   175

Tyr Ser Cys His Met Lys Thr Phe Tyr Arg Ser Lys Gly Gly Val Lys
                     180   185   190

Glu Phe Pro Glu Tyr His Phe Ile His His Arg Leu Glu Lys Thr Tyr

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                                                            200                 205
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Val Glu Glu Gly Ser Phe Val Glu Gln His Glu Thr Ala Ile Ala Gln
                      210   215   220

Leu Thr Thr Ile
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<213> Ptilosarcus gurneyi

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Ser Ala Lys Ala Ser Val Glu Gly Ile Val Asn Asn His Val Phe Ser
                     20   25   30

Met Glu Gly Phe Gly Lys Gly Asn Val Leu Phe Gly Asn Gln Leu Met
                 35   40   45

Gln Ile Arg Val Thr Lys Gly Gly Pro Leu Pro Phe Ala Phe Asp Ile
             50   55   60

Val Ser Ile Ala Phe Gln Tyr Gly Asn Arg Thr Phe Thr Lys Tyr Pro

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                                               65

[illegible stylized text]                  Phe Phe
                       70        75          80

Asp Asp Ile Ala Asp Tyr Phe Val Gln Ser Phe Pro Ala Gly Phe Phe
                85                  90                  95

Tyr Glu Arg Asn Leu Arg Phe Glu Asp Gly Ala Ile Val Asp Ile Arg
            100                 105                 110

Ser Asp Ile Ser Leu Glu Asp Lys Phe His Tyr Lys Val Glu Tyr
            115                 120                 125

Arg Gly Asn Gly Phe Pro Ser Asn Gly Pro Val Met Gln Lys Ala Ile
            130                 135                 140

Leu Gly Met Glu Pro Ser Phe Glu Val Val Tyr Met Asn Ser Gly Val
            145                 150                 155

Leu Val Gly Glu Val Asp Leu Val Tyr Lys Leu Glu Ser Gly Asn Tyr
        160                 165                 170                 175

Tyr Ser Cys His Met Lys Thr Phe Tyr Arg Ser Lys Gly Gly Val Lys
                180                 185                 190

Glu Phe Pro Glu Tyr His Phe Ile His His Arg Leu Glu Lys Thr Tyr
                195                 200                 205
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Val Glu Glu Gly Ser Phe Val Glu Gln His Glu Thr Ala Ile Ala Gln
210   215   220

Leu Thr Thr Ile Gly
225

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<213> Ptilosarcus gurneyi

<400> 19

Met Val Asn Arg Asn Val Leu Lys Asn Thr Gly Leu Lys Glu Ile Met
1   5   10   15

Ser Ala Lys Ala Ser Val Glu Gly Ile Val Asn Asn His Val Phe Ser
                20   25   30

Met Glu Gly Phe Gly Lys Gly Asn Val Leu Phe Gly Asn Gln Leu Met
            35   40   45

Gln Ile Arg Val Thr Lys Gly Gly Pro Leu Pro Phe Ala Phe Asp Ile
        50   55   60

Val Ser Ile Ala Phe Gln Tyr Gly Asn Arg Thr Phe Thr Lys Tyr Pro
65   70   75   80

Asp Asp Ile Ala Asp Tyr Phe Val Gln Ser Phe Pro Ala Gly Phe Phe
                85   90   95

Tyr Glu Arg Asn Leu Arg Phe Glu Asp Gly Ala Ile Val Asp Ile Arg
            100   105   110

Ser Asp Ile Ser Leu Glu Asp Asp Lys Phe His Tyr Lys Val Glu Tyr
            115   120   125

Arg Gly Asn Gly Phe Pro Ser Asn Gly Pro Val Met Gln Lys Ala Ile
        130   135   140

Leu Gly Met Glu Pro Ser Phe Glu Val Val Tyr Met Asn Ser Gly Val
145   150   155   160

Leu Val Gly Glu Val Asp Leu Val Tyr Lys Leu Glu Ser Gly Asn Tyr
            165   170   175

Tyr Ser Cys His Met Lys Thr Phe Tyr Arg Ser Lys Gly Gly Val Lys
            180   185   190

Glu Phe Pro Glu Tyr His Phe Ile His His Arg Leu Glu Lys Thr Tyr
            195   200   205

Val Glu Glu Gly Ser Phe Val Glu Gln His Glu Thr Ala Ile Ala Gln
            210   215   220

Leu Thr Thr Ile Gly Lys
225   230

<210> 20
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<213> Ptilosarcus gurneyi

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Met Val Asn Arg Asn Val Leu Lys Asn Thr Gly Leu Lys Glu Ile Met
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Ser Ala Lys Ala Ser Val Glu Gly Ile Val Asn Asn His Val Phe Ser
            20   25   30

Met Glu Gly Phe Gly Lys Gly Asn Val Leu Phe Gly Asn Gln Leu Met
        35   40   45

Gln Ile Arg Val Thr Lys Gly Gly Pro Leu Pro Phe Ala Phe Asp Ile
    50   55   60

Val Ser Ile Ala Phe Gln Tyr Gly Asn Arg Thr Phe Thr Lys Tyr Pro
65   70   75   80

Asp Asp Ile Ala Asp Tyr Phe Val Gln Ser Phe Pro Ala Gly Phe Phe
                85   90   95

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Ptilosarcus gurneyi.ST25.txt

Tyr Glu Arg Asn Leu Arg Phe Glu Asp Gly Ala Ile Val Asp Ile Arg
100   105   110

Ser Asp Ile Ser Leu Glu Asp Asp Lys Phe His Tyr Lys Val Glu Tyr
115   120   125

Arg Gly Asn Gly Phe Pro Ser Asn Gly Pro Val Met Gln Lys Ala Ile
130   135   140

Leu Gly Met Glu Pro Ser Phe Glu Val Val Tyr Met Asn Ser Gly Val
145   150   155   160

Leu Val Gly Glu Val Asp Leu Val Tyr Lys Leu Glu Ser Gly Asn Tyr
165   170   175

Tyr Ser Cys His Met Lys Thr Phe Tyr Arg Ser Lys Gly Gly Val Lys
180   185   190

Glu Phe Pro Glu Tyr His Phe Ile His His Arg Leu Glu Lys Thr Tyr
195   200   205

Val Glu Glu Gly Ser Phe Val Glu Gln His Glu Thr Ala Ile Ala Gln
210   215   220

Leu Thr Thr Ile Gly Lys Pro
225   230

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Ptilosarcus gurneyi.ST25.txt

FIGURE FD4458

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<213> Ptilosarcus gurneyi

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Met Val Asn Arg Asn Val Leu Lys Asn Thr Gly Leu Lys Glu Ile Met
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Ser Ala Lys Ala Ser Val Glu Gly Ile Val Asn Asn His Val Phe Ser
            20   25   30

Met Glu Gly Phe Gly Lys Gly Asn Val Leu Phe Gly Asn Gln Leu Met
        35   40   45

Gln Ile Arg Val Thr Lys Gly Gly Pro Leu Pro Phe Ala Phe Asp Ile
    50   55   60

Val Ser Ile Ala Phe Gln Tyr Gly Asn Arg Thr Phe Thr Lys Tyr Pro
65   70   75   80

Asp Asp Ile Ala Asp Tyr Phe Val Gln Ser Phe Pro Ala Gly Phe Phe
                85   90   95

Tyr Glu Arg Asn Leu Arg Phe Glu Asp Gly Ala Ile Val Asp Ile Arg
            100   105   110

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Ser Asp Ile Ser Leu Glu Asp Asp Lys Phe His Tyr Lys Val Glu Tyr
115   120   125

Arg Gly Asn Gly Phe Pro Ser Asn Gly Pro Val Met Gln Lys Ala Ile
130   135   140

Leu Gly Met Glu Pro Ser Phe Glu Val Val Tyr Met Asn Ser Gly Val
145   150   155   160

Leu Val Gly Glu Val Asp Leu Val Tyr Lys Leu Glu Ser Gly Asn Tyr
165   170   175

Tyr Ser Cys His Met Lys Thr Phe Tyr Arg Ser Lys Gly Gly Val Lys
180   185   190

Glu Phe Pro Glu Tyr His Phe Ile His His Arg Leu Glu Lys Thr Tyr
195   200   205

Val Glu Gly Ser Phe Val Glu Gln His Glu Thr Ala Ile Ala Gln
210   215   220

Leu Thr Thr Ile Gly Lys Pro Leu
225   230

<210> 22

Ptilosarcus gurneyi.ST25.txt

<211>   233
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<213>   Ptilosarcus gurneyi

<400>   22

Met Val Asn Arg Asn Val Leu Lys Asn Thr Gly Leu Lys Glu Ile Met
1   5   10   15

Ser Ala Lys Ala Ser Val Glu Gly Ile Val Asn Asn His Val Phe Ser
                20   25   30

Met Glu Gly Phe Gly Lys Gly Asn Val Leu Phe Gly Asn Gln Leu Met
            35   40   45

Gln Ile Arg Val Thr Lys Gly Gly Pro Leu Pro Phe Ala Phe Asp Ile
        50   55   60

Val Ser Ile Ala Phe Gln Tyr Gly Asn Arg Thr Phe Thr Lys Tyr Pro
65   70   75   80

Asp Asp Ile Ala Asp Tyr Phe Val Gln Ser Phe Pro Ala Gly Phe Phe
                85   90   95

Tyr Glu Arg Asn Leu Arg Phe Glu Asp Gly Ala Ile Val Asp Ile Arg
                100   105   110

Ser Asp Ile Ser Leu Glu Asp Asp Lys Phe His Tyr Lys Val Glu Tyr

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115

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              120                        125
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Arg Gly Asn Gly Phe Pro Ser Asn Gly Pro Val Met Gln Lys Ala Ile
            130   135   140

Leu Gly Met Glu Pro Ser Phe Glu Val Val Tyr Met Asn Ser Gly Val
            145   150   155   160

Leu Val Gly Glu Val Asp Leu Val Tyr Lys Leu Glu Ser Gly Asn Tyr
            165   170   175

Tyr Ser Cys His Met Lys Thr Phe Tyr Arg Ser Lys Gly Gly Val Lys
            180   185   190

Glu Phe Pro Glu Tyr His Phe Ile His His Arg Leu Glu Lys Thr Tyr
            195   200   205

Val Glu Glu Gly Ser Phe Val Glu Gln His Glu Thr Ala Ile Ala Gln
            210   215   220

Leu Thr Thr Ile Gly Lys Pro Leu Gly
            225   230

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<213>   Ptilosarcus gurneyi
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Ptilosarcus gurneyi.ST25.txt

<400> 23

Met Val Asn Arg Asn Val Leu Lys Asn Thr Gly Leu Lys Glu Ile Met
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Ser Ala Lys Ala Ser Val Glu Gly Ile Val Asn Asn His Val Phe Ser
            20                  25                  30

Met Glu Gly Phe Gly Lys Gly Asn Val Leu Phe Gly Asn Gln Leu Met
        35                  40                  45

Gln Ile Arg Val Thr Lys Gly Gly Pro Leu Pro Phe Ala Phe Asp Ile
    50                  55                  60

Val Ser Ile Ala Phe Gln Tyr Gly Asn Arg Thr Phe Thr Lys Tyr Pro
65                  70                  75                  80

Asp Asp Ile Ala Asp Tyr Phe Val Gln Ser Phe Pro Ala Gly Phe Phe
            85                  90                  95

Tyr Glu Arg Asn Leu Arg Phe Glu Asp Gly Ala Ile Val Asp Ile Arg
        100                 105                 110

Ser Asp Ile Ser Leu Glu Asp Asp Lys Phe His Tyr Lys Val Glu Tyr
    115                 120                 125

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Arg Gly Asn Gly Phe Pro Ser Asn Gly Pro Val Met Gln Lys Ala Ile
130                 135                 140

Leu Gly Met Glu Pro Ser Phe Glu Val Val Tyr Met Asn Ser Gly Val
145                 150                 155                 160

Leu Val Gly Glu Val Asp Leu Val Tyr Lys Leu Glu Ser Gly Asn Tyr
165                 170                 175

Tyr Ser Cys His Met Lys Thr Phe Tyr Arg Ser Lys Gly Gly Val Lys
180                 185                 190

Glu Phe Pro Glu Tyr His Phe Ile His His Arg Leu Glu Lys Thr Tyr
195                 200                 205

Val Glu Glu Gly Ser Phe Val Glu Gln His Glu Thr Ala Ile Ala Gln
210                 215                 220

Leu Thr Thr Ile Gly Lys Pro Leu Gly Ser
225                 230

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<213> Ptilosarcus gurneyi

<400> 24

Ptilosarcus gurneyi.ST25.txt

Met Val Asn Arg Asn Val Leu Lys Asn Thr Gly Leu Lys Glu Ile Met
1               5                   10                  15

Ser Ala Lys Ala Ser Val Glu Gly Ile Val Asn Asn His Val Phe Ser
                20                  25                  30

Met Glu Gly Phe Gly Lys Gly Asn Val Leu Phe Gly Asn Gln Leu Met
                35                  40                  45

Gln Ile Arg Val Thr Lys Gly Gly Pro Leu Pro Phe Ala Phe Asp Ile
            50                  55                  60

Val Ser Ile Ala Phe Gln Tyr Gly Asn Arg Thr Phe Thr Lys Tyr Pro
65                  70                  75                  80

Asp Asp Ile Ala Asp Tyr Phe Val Gln Ser Phe Pro Ala Gly Phe Phe
                85                  90                  95

Tyr Glu Arg Asn Leu Arg Phe Glu Asp Gly Ala Ile Val Asp Ile Arg
                100                 105                 110

Ser Asp Ile Ser Leu Glu Asp Asp Lys Phe His Tyr Lys Val Glu Tyr
                115                 120                 125

Arg Gly Asn Gly Phe Pro Ser Asn Gly Pro Val Met Gln Lys Ala Ile
                130                 135                 140

Leu Gly Met Glu Pro Ser Phe Glu Val Val Tyr Met Asn Ser Gly Val
145                 150                 155                 160

Leu Val Gly Glu Val Asp Leu Val Tyr Lys Leu Glu Ser Gly Asn Tyr
                165                 170                 175

Tyr Ser Cys His Met Lys Thr Phe Tyr Arg Ser Lys Gly Gly Val Lys
            180                 185                 190

Glu Phe Pro Glu Tyr His Phe Ile His His Arg Leu Glu Lys Thr Tyr
        195                 200                 205

Val Glu Gly Ser Phe Val Glu Gln His Glu Thr Ala Ile Ala Gln
    210                 215                 220

Leu Thr Thr Ile Gly Lys Pro Leu Gly Ser Leu
225                 230                 235

<210> 25
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<213> Ptilosarcus gurneyi

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Met Val Asn Arg Asn Val Leu Lys Asn Thr Gly Leu Lys Glu Ile Met
1                   5                   10                  15

Ptilosarcus gurneyi.ST25.txt

Ser Ala Lys Ala Ser Val Glu Gly Ile Val Asn Asn His Val Phe Ser
20                  25                  30

Met Glu Gly Phe Gly Lys Gly Asn Val Leu Phe Gly Asn Gln Leu Met
35                  40                  45

Gln Ile Arg Val Thr Lys Gly Gly Pro Leu Pro Phe Ala Phe Asp Ile
50                  55                  60

Val Ser Ile Ala Phe Gln Tyr Gly Asn Arg Thr Phe Thr Lys Tyr Pro
65                  70                  75                  80

Asp Asp Ile Ala Asp Tyr Phe Val Gln Ser Phe Pro Ala Gly Phe Phe
85                  90                  95

Tyr Glu Arg Asn Leu Arg Phe Glu Asp Gly Ala Ile Val Asp Ile Arg
100                 105                 110

Ser Asp Ile Ser Leu Glu Asp Asp Lys Phe His Tyr Lys Val Glu Tyr
115                 120                 125

Arg Gly Asn Gly Phe Pro Ser Asn Gly Pro Val Met Gln Lys Ala Ile
130                 135                 140

Leu Gly Met Glu Pro Ser Phe Glu Val Val Tyr Met Asn Ser Gly Val
145                 150                 155                 160

Leu Val Gly Glu Val Asp Leu Val Tyr Lys Leu Glu Ser Gly Asn Tyr
165                 170                 175

Tyr Ser Cys His Met Lys Thr Phe Tyr Arg Ser Lys Gly Gly Val Lys
180                 185                 190

Glu Phe Pro Glu Tyr His Phe Ile His His Arg Leu Glu Lys Thr Tyr
195                 200                 205

Val Glu Gly Ser Phe Val Glu Gln His Glu Thr Ala Ile Ala Gln
210                 215                 220

Leu Thr Thr Ile Gly Lys Pro Leu Gly Ser Leu His
225                 230                 235

<210> 26
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<213> Ptilosarcus gurneyi

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Met Val Asn Arg Asn Val Leu Lys Asn Thr Gly Leu Lys Glu Ile Met
1                 5                 10                 15

Ser Ala Lys Ala Ser Val Glu Gly Ile Val Asn Asn His Val Phe Ser
20                 25                 30

Met Glu Gly Phe Gly Lys Gly Asn Val Leu Phe Gly Asn Gln Leu Met
35                      40                      45

Gln Ile Arg Val Thr Lys Gly Gly Pro Leu Pro Phe Ala Phe Asp Ile
50                      55                      60

Val Ser Ile Ala Phe Gln Tyr Gly Asn Arg Thr Phe Thr Lys Tyr Pro
65                      70                      75                      80

Asp Asp Ile Ala Asp Tyr Phe Val Gln Ser Phe Pro Ala Gly Phe Phe
85                      90                      95

Tyr Glu Arg Asn Leu Arg Phe Glu Asp Gly Ala Ile Val Asp Ile Arg
100                     105                     110

Ser Asp Ile Ser Leu Glu Asp Asp Lys Phe His Tyr Lys Val Glu Tyr
115                     120                     125

Arg Gly Asn Gly Phe Pro Ser Asn Gly Pro Val Met Gln Lys Ala Ile
130                     135                     140

Leu Gly Met Glu Pro Ser Phe Glu Val Val Tyr Met Asn Ser Gly Val
145                     150                     155                     160

Leu Val Gly Glu Val Asp Leu Val Tyr Lys Leu Glu Ser Gly Asn Tyr

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Ptilosarcus gurneyi.ST25.txt

165                                                                                    175

Tyr Ser Cys His Met Lys Thr Phe Tyr Arg Ser Lys Gly Gly Val Lys
                    180                     185                     190

Glu Phe Pro Glu Tyr His Phe Ile His His Arg Leu Glu Lys Thr Tyr
                    195                     200                     205

Val Glu Glu Gly Ser Phe Val Glu Gln His Glu Thr Ala Ile Ala Gln
                    210                     215                     220

Leu Thr Thr Ile Gly Lys Pro Leu Gly Ser Leu His Glu
225                     230                     235

<210> 27
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<212> PRT
<213> Ptilosarcus gurneyi

<400> 27

Met Val Asn Arg Asn Val Leu Lys Asn Thr Gly Leu Lys Glu Ile Met
1                       5                       10                      15

Ser Ala Lys Ala Ser Val Glu Gly Ile Val Asn Asn His Val Phe Ser
                    20                      25                      30

Met Glu Gly Phe Gly Lys Gly Asn Val Leu Phe Gly Asn Gln Leu Met

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Ptilosarcus gurneyi.ST25.txt

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                              40                          45

35

Gln Ile Arg Val Thr Lys Gly Gly Pro Leu Pro Phe Ala Phe Asp Ile
 50                          55                          60

Val Ser Ile Ala Phe Gln Tyr Gly Asn Arg Thr Phe Thr Lys Tyr Pro
 65                          70                          75          80

Asp Asp Ile Ala Asp Tyr Phe Val Gln Ser Phe Pro Ala Gly Phe Phe
                             85                          90          95

Tyr Glu Arg Asn Leu Arg Phe Glu Asp Gly Ala Ile Val Asp Ile Arg
                            100                         105         110

Ser Asp Ile Ser Leu Glu Asp Asp Lys Phe His Tyr Lys Val Glu Tyr
                            115                         120         125

Arg Gly Asn Gly Phe Pro Ser Asn Gly Pro Val Met Gln Lys Ala Ile
                            130                         135         140

Leu Gly Met Glu Pro Ser Phe Glu Val Val Tyr Met Asn Ser Gly Val
                            145                         150         155         160

Leu Val Gly Glu Val Asp Leu Val Tyr Lys Leu Glu Ser Gly Asn Tyr
                            165                         170         175
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Tyr Ser Cys His Met Lys Thr Phe Tyr Arg Ser Lys Gly Val Lys
180   185   190

Glu Phe Pro Glu Tyr His Phe Ile His His Arg Leu Glu Lys Thr Tyr
195   200   205

Val Glu Glu Gly Ser Phe Val Glu Gln His Glu Thr Ala Ile Ala Gln
210   215   220

Leu Thr Thr Ile Gly Lys Pro Leu Gly Ser Leu His Glu Trp
225   230   235